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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/023,435   | 12/14/2001  | Yu-Liang Wu          | TAH-001.00          | 2333             |
| 30274  | 7590        | 10/19/2004           | EXAMINER            |                  |
| LAW OFFICES OF C. GEORGE YU<br>12707 HIGH BLUFF DRIVE<br>SECOND FLOOR; PMB 2008<br>SAN DIEGO, CA 92130 |             |                      | SIEK, VUTHE         |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2825                |                  |

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/023,435

Applicant(s)

WU ET AL.

Examiner

Vuthe Siek

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 3,4,9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to application 10/023,435 and communications filed on 12/08/2003. Claims 1-13 remain pending in the application.

#### ***Response to Amendment***

2. The affidavit under 37 CFR 1.132 filed on 12/8/2003 is sufficient to overcome the rejection of claims 1-13 based Wu et al., "A Fast Graph-Based Alternative Wiring Scheme for Boolean Networks." Under 102(a).

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 5-8 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al., "On Fixed Edges and Edge-Reconstruction of Series-Parallel Networks\*," IEEE, Nov. 1998.

5. As to claims 1, 7 and 13, Wu et al. teach a set of exclusive configurations for 1-wire freed Boolean network (pages 707-710, especially Figs. 3-4). The Fig. 3 shown logic network and Fig. 4 shown predetermined logic patterns. Wu et al. teach that if wire v2v6 is an alternative of wire v1v4, Wu et al. need to show that functionality of the new Boolean network  $G-v1v4+v2v6$  is the same as that of G. Therefore, Wu et al. need only show that the function at v6 is  $G-v1v4+v2v6$  is the same as that in G.

Art Unit: 2825

6. As to claims 5-6 and 11-12, Wu et al. shown in Figs. 3-4 alternative wires configurations as graph pattern-matching.
7. As to claims 2 and 8, Wu et al. teach Figure 4 presents a set of exclusive configurations for 1-wire freed Boolean network (referred to determining an alternative wire does not include performing Boolean implication as claimed).
8. Claims 1-2, 7-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al., "Synthesis for Multiple Input Wires Replacement of a Gate for Wiring Consideration," IEEE, Nov. 1999, pp. 115-118.
9. As to claims 1-2, 7-8 and 13, Chang et al. teach alternative wire technique for replacement of multiple wires.

***Allowable Subject Matter***

10. Claims 3-4 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Wu et al. do not teach that performing Boolean implication is limited to an amount as specified in the claims.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906. The examiner can normally be reached on Increase Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek

  
**VUTHE SIEK**  
**PRIMARY EXAMINER**